

# Situational Awareness



A Field Perspective

# Objective:

To discuss the mindset of being  
**aware** of your situation and  
surroundings,

in the **present** and

at different **scales**

in relation to safety

TOGETHER  
WE MOURN



UNITED  
WE STAND



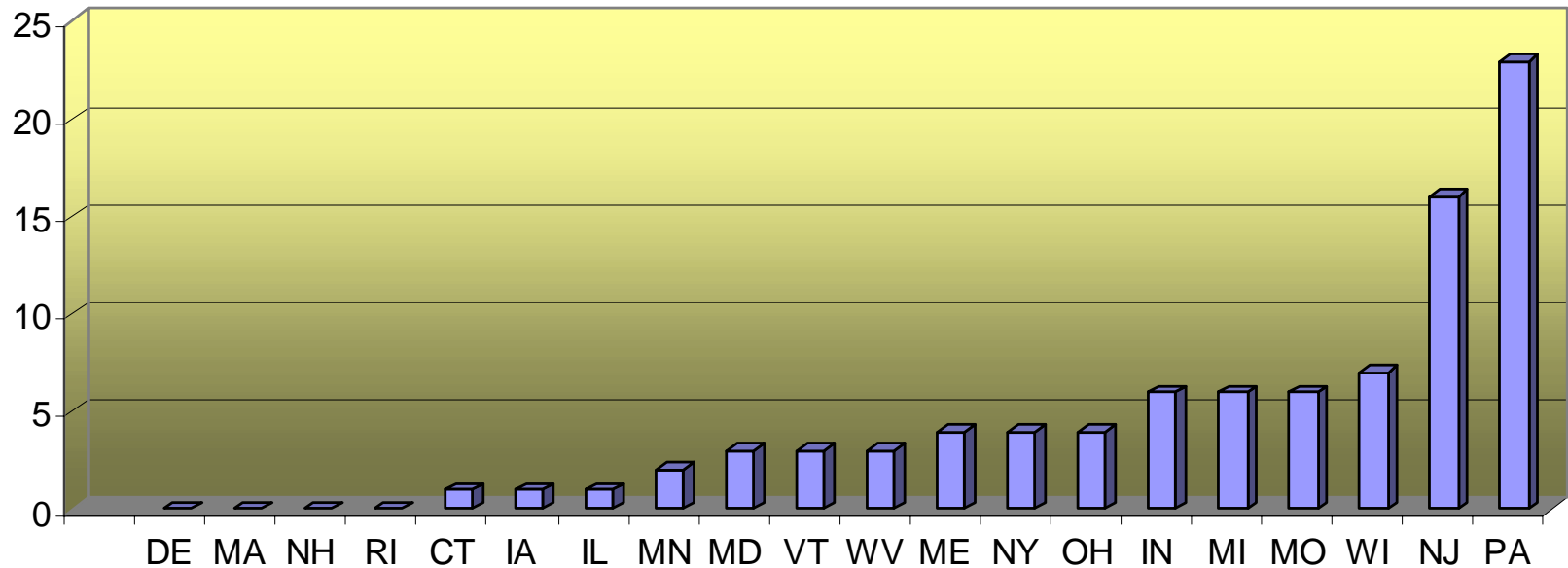
IN MEMORY OF ALL  
WILDLAND FIRE FIGHTERS.  
PAST, PRESENT AND FUTURE  
AND THE PEOPLE WHO SUPPORT THEM.





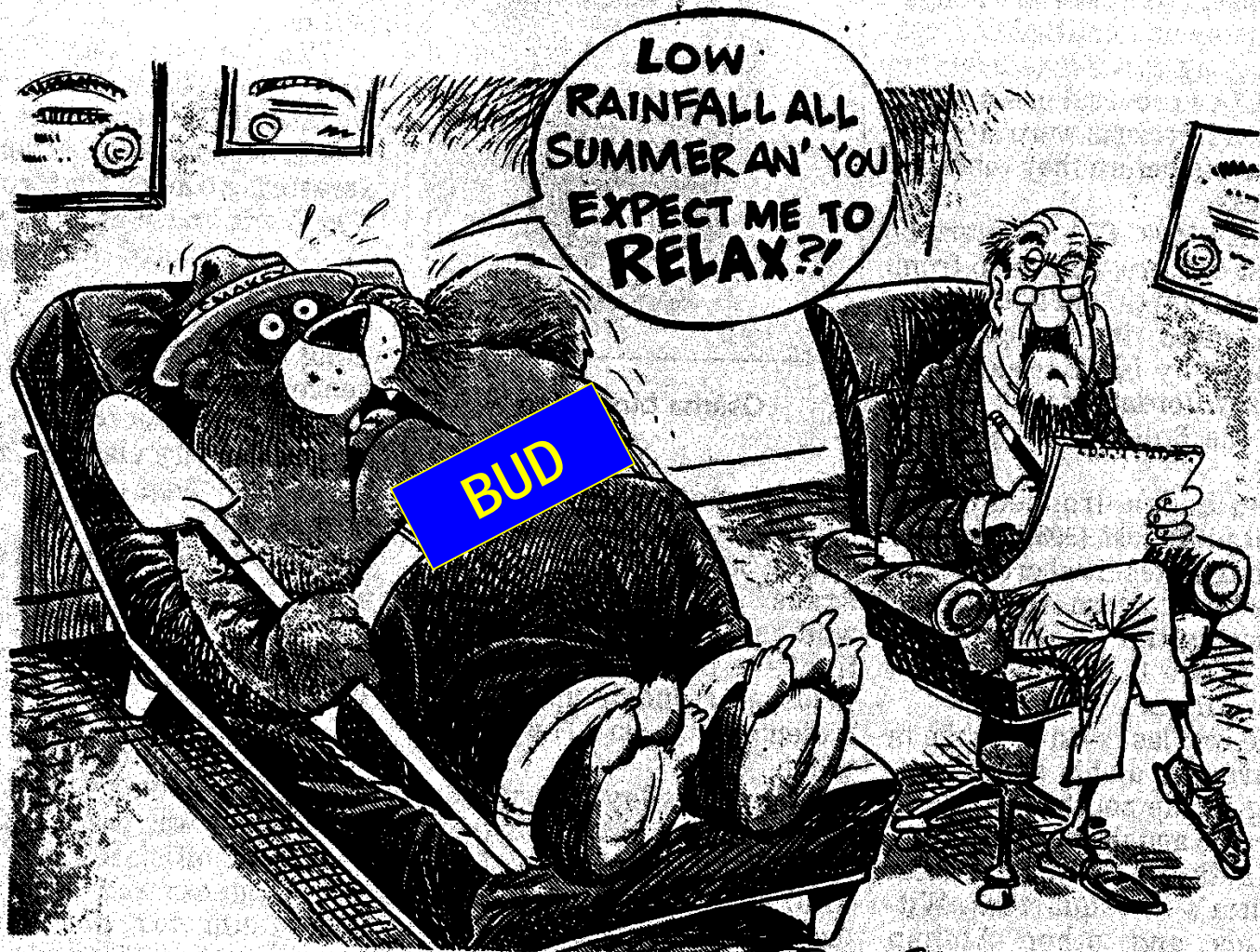
# Wildland Firefighter Fatalities in the Eastern Area

# Wildland FF Fatalities



Source: NIFC-<http://www.nifc.gov/reports/>





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Total Media Services

# USDA Forest Service

*Caring for the land and serving people*



## Fire & Aviation Management

### Wildland Fire Safety



[National Fire Plan](#)

[Aviation](#)

[Aviation Safety Center](#)

[Communications](#)

[Contracting](#)

[Fire Applications](#) (Software)

[Fire Management](#)

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#### Eight Principles of Safety

- People are the most critical element of the safety program.
- Our goal is to prevent all injuries, illnesses and accidents.
- Management has leadership responsibility and accountability for preventing injuries, illnesses, and accidents.
- Safety is a condition of employment. The workforce must be provided continuous training to work safely.
- Regular oversight and monitoring of safety. Our contractors and cooperators will meet safety standards.
- performance are important and needed.
- Identified safety deficiencies will be corrected immediately.
- Safety extends beyond the job to be part of every person's life.

<http://www.fs.fed.us/fire/safety/index.html>

# USDA Forest Service

*Caring for the land and serving people*



## Fire & Aviation Management

### Wildland Fire Safety



### What's New in Safety?

- [Firefighter Travel Safety Advisory](#)
- [Hazard Tree Safety Initiative](#)

### Directory

- [10 & 18](#)
- [Alerts/Advisories](#)
- [Code of Federal Regulations](#)
- [FS Directives](#)



- [Fire Shelter Information](#)
- [Fitness](#)
- [Health & Safety Handbook \(6709.11\)](#)
- [Health & Safety Reports](#)
- [Historical Wildland Firefighter Fatalities Report](#)
- [Investigations](#)
- [Briefing Paper & Interim Directives](#)
- [Job Hazard Analysis](#)
- [Reference Material](#)
- [Related Link](#)
- [SAFENET](#)
- [Training](#)
- [Lessons from the Thirtymile Fire](#)
- [Work Capacity Information](#)





## **National Interagency Fire Center**

Boise, Idaho

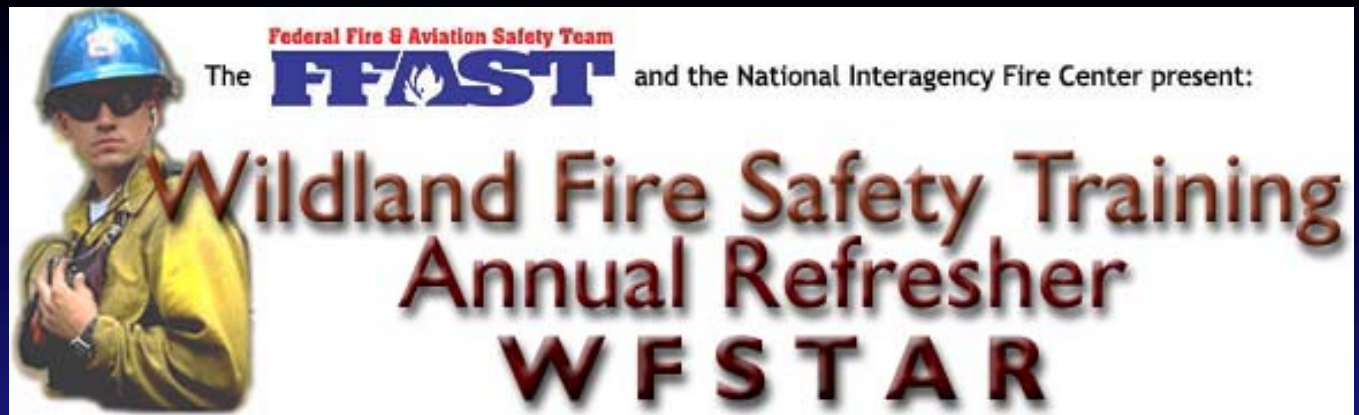


**New 10 Standard Fire Orders Adopted by the NWCG** (February 2003)

**The NWCG Safety and Health Working Team Introduces New Emergency Incident Driving Policies** (February 2003)

**Annual Wildland Fire Safety Refresher Training:**  
Web site that provides an interagency centralized resource for instructors of refresher training.

**Six Minutes for Safety:** An interagency safety initiative that addresses high-risk situations that historically get firefighters in trouble.



#### Purpose of Web Site:

- Provide a one-stop-shopping resource for refresher training instructors. This site offers guidance, agency policies, emerging issues, training materials and topics to assist instructors from all wildland fire agencies in preparing to teach annual refresher training.

#### Training Goals

- Provide fireline personnel with opportunities to refresh their skills in applying the risk management process and rules of engagement to recognize and mitigate hazards in their work environment.
- Provide updates on current issues for the upcoming fire season.
- Review fire shelter considerations and facilitate "hands on" fire shelter inspections and shelter deployment practice.

## What's New for 2003



National Emphasis  
Topic: Driving  
Safety



New Fire Shelter  
Design



Thirtymile Fire



Revised 10  
Standard Fire  
Orders



Work/Rest  
Guidelines



Fireline Safety  
Refresher  
Training Video



Featured Web  
Sites

[http://www.nifc.gov/safety\\_study/annual-refresh/](http://www.nifc.gov/safety_study/annual-refresh/)

# **The** **Wildland Fire Lessons Learned Center**

*Knowledge management is getting the right information to the right people at the right time.*

## **Hot Tips**

The latest in innovative tactics, technologies and new approaches that work in both the classroom and the field.

**The Winning Series** Find out about fuels, strategy, tactics, special safety and logistical concerns to improve your performance in different parts of the country.

**After Incident Reports (AIR)** Complete an AIR from your incident experiences by describing both your successes and challenges, especially the lessons learned or best practices that others can use. View recent AIR's submitted.

**The Learning Curve** Recent lessons learned and best practices from the field, collected and summarized from After Incident Reports.

## **Scratchline Newsletter**

Your quarterly newsletter featuring lessons learned and best practices from all sizes and types of incidents.

## **Center Library**

A growing collection of articles, periodicals, reviews and papers on wildland fire topics. Includes lessons learned, best practices and wildland fire curriculum source material for instructors.

**<http://www.wildfirelessons.net>**





**Analogies**

**Examples**

**Circumstances**

**You don't  
want to  
be here**



Or here



Mr. "Bud" Safety

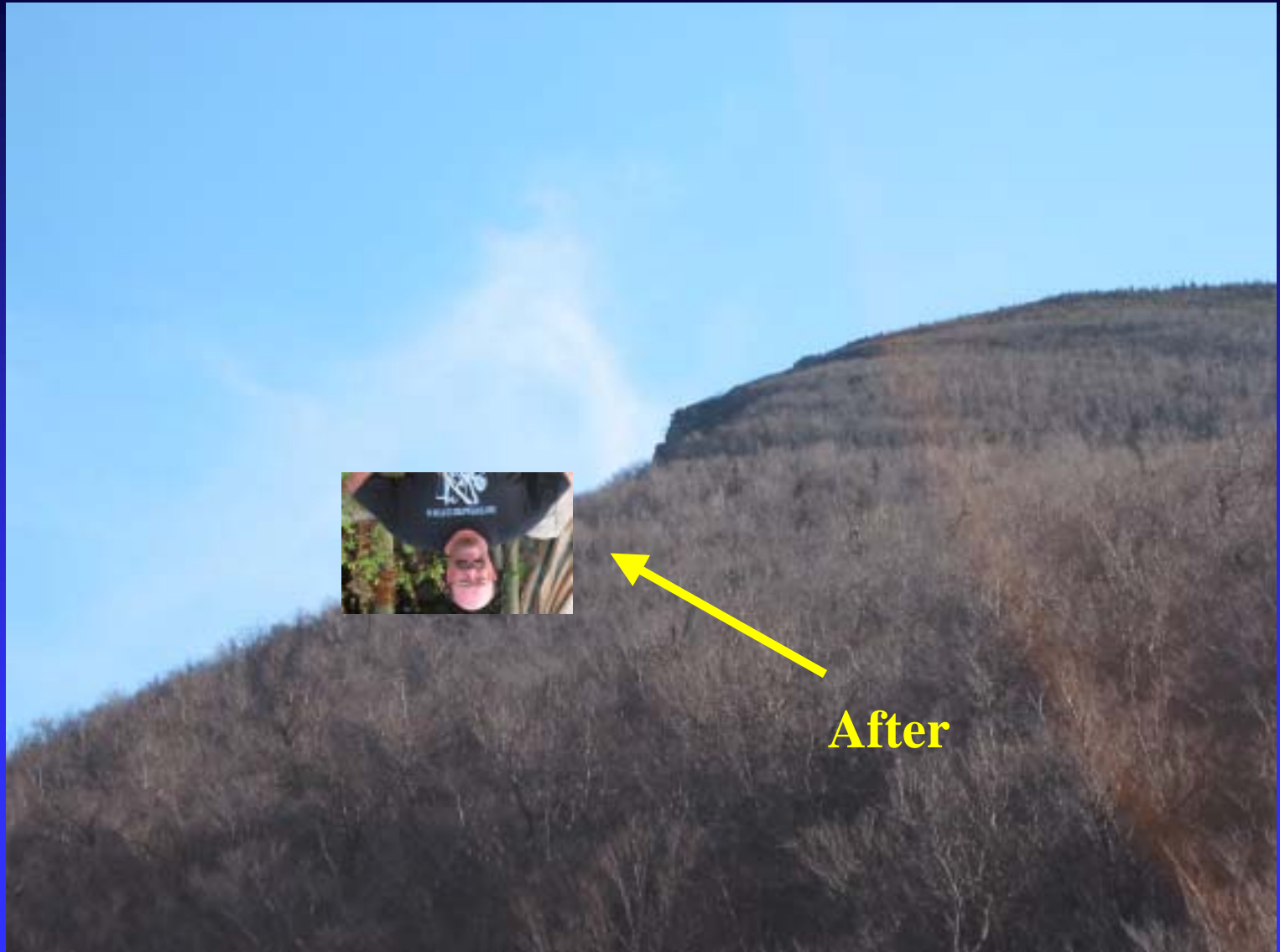
You don't  
want to  
be here,  
either



**Before**



# The Old Man in the Mountain (NH)



# Non-fire incidents



FEMA DR-1391-NY



Don't forget  
to lock up  
your car or  
van





Sanitation truck blockage of Pier 90  
access



# Ground Zero



# Ground Zero



# Ground Zero







**Coast Guard security at end of Pier 90 –  
Hudson River**



# **Work/ Rest Role Models**

**Situations that shout watch out**

**You feel like taking a nap on the fireline**



**You feel like taking a nap at a NFFS meeting**



# The NWCG Safety and Health Working Team Introduces New Emergency Incident Driving Policies



The same message may be expressed in different ways





# Individual Safety Initiative

To turn the three-year trend of increasing mishaps around, we need “**all eyes**” searching to identify and eliminate unnecessary risks. Time permitting; risks should be identified to the appropriate supervisory level. If there is no time to report the risk, each employee is expected to act in the interest of safety, even if it means temporarily suspending on ongoing operation. If you see something, say something and if you need to act, do so.





CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION



US Army Corps  
of Engineers®  
New England District

The Nature  
Conservancy



SAVING THE LAST GREAT PLACES ON EARTH



New Hampshire Division of Forests and Lands

MAINE FOREST SERVICE  
*Maine Department of Conservation*

RC&D COUNCILS



# Bald Ledge Fire: Interagency Cooperation

9-3-1999



Runmey  
Volunteer  
Fire Dept.

State of New  
Hampshire

White Mountain  
National Forest

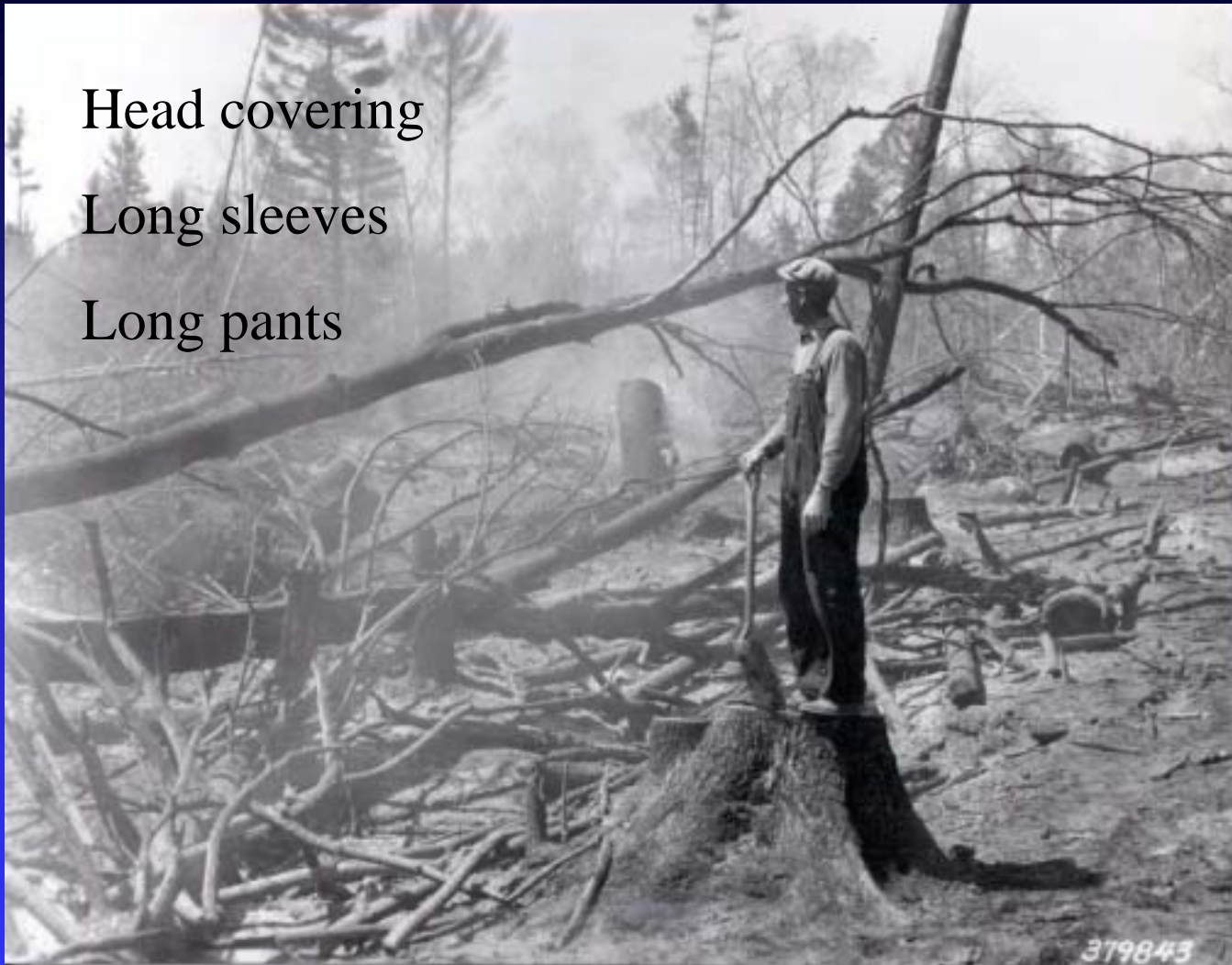


# Historical Use of Personal Protective Equipment on the White Mountain NF

Head covering

Long sleeves

Long pants





# Bald Ledge Fire: Progress in the use of personal protective equipment over the last 70 years?

Eye  
protection?

Leather  
gloves?

Nomex pants?



# The Lawn Guyland Experience

(Long Island, NY)

Circa 1995 a.d.



What is the degree of situational awareness here?



Good calves; he must have passed the pack test!







Sunrise  
Highway

Housing  
Complex



Atlantic Ocean →

Housing  
Complex →



Sunrise Fire-Long Island, NY

# *Has progress been made on LI since the 1995 fires?*

Fire Management Plan (Final July 1998)

Prescribed fire program

Increased NYS Ranger Staff

Wildfire Training Academy

New agreements and  
partnerships

FTS Weather Stations



2000-2003: 258 Acres

Recognition and acceptance of responsibilities

**And greatly increased Situational Awareness**

Ralph Scarpino becoming situationally aware of his tracked vehicle prior to a rx burn in Connecticut





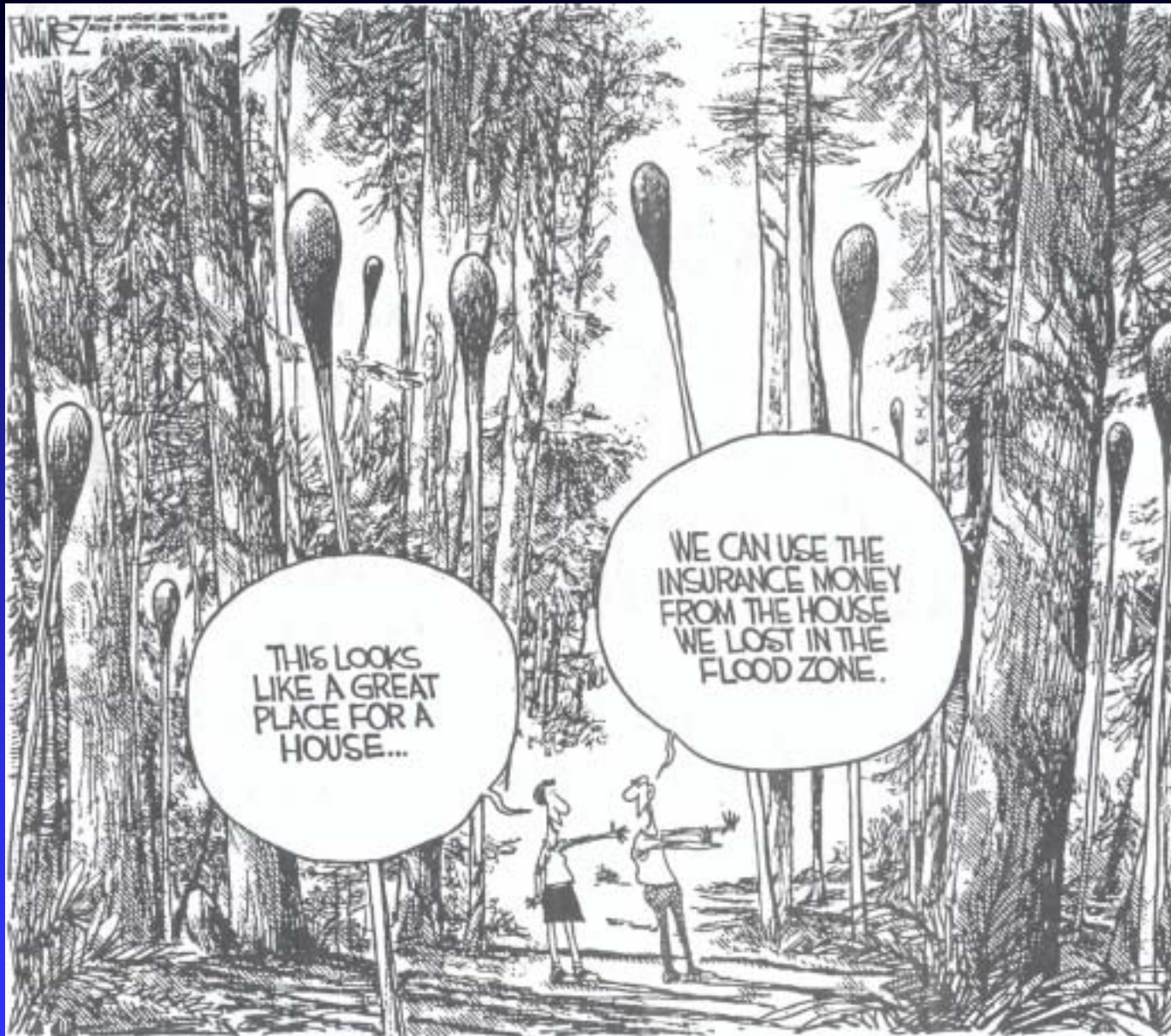
## Prescribed fire in Connecticut -2003





## **Hazardous fuels mitigation - Massachusetts**







# Myles Standish State Forest - MA



# Before hazard mitigation





# After hazard mitigation



# Not Situationally Aware



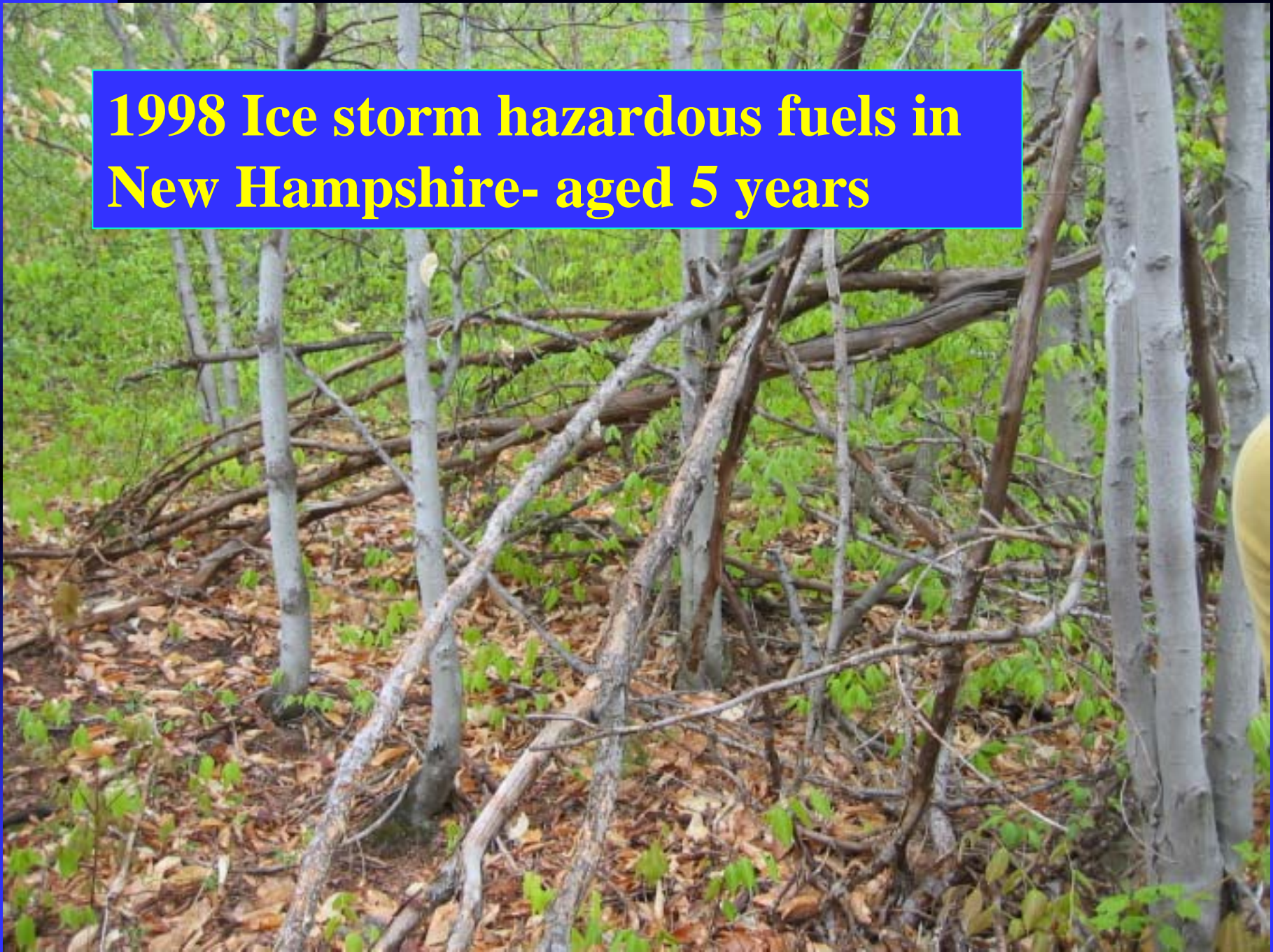


# Ossipee Pine Barrens, New Hampshire





**1998 Ice storm hazardous fuels in  
New Hampshire- aged 5 years**





## Prescribed fire on the White Mountain NF





# Prescribed fire on the White Mountain NF



White Mountain  
NF Fuels  
Treatment- 2003



# Local Tools



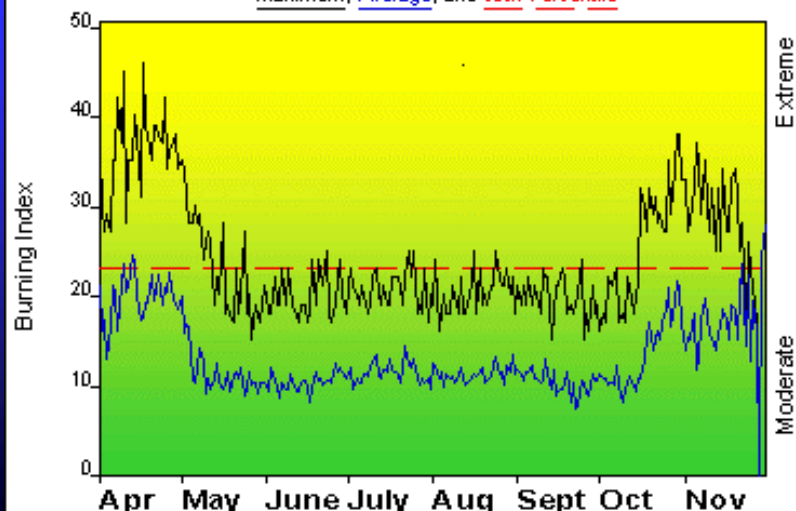
# Pocket Cards

**Fire Fighter Pocket Cards are published to promote safety. The cards are graphic images displaying historical weather patterns for a given area. The cards are meant to be printed and used in conjunction with daily observed and forecasted weather and indices**

**See <http://famweb.nwcg.gov/pocketcards/> for a listing of other National Forest pocket cards that can be viewed and downloaded.**

## FIRE DANGER -- White Mountain National Forest

Maximum, Average, and 90th Percentile



## Fire Danger Area:

- ♦ White Mountain NF
- ♦ Oxford County, Maine
- ♦ Carroll, Grafton, Coos, NH

## Fire Danger Interpretation:



- EXTREME** -- Use extreme caution
- (Caution)** -- Watch for change
- Moderate** -- Lower Potential, but always be aware

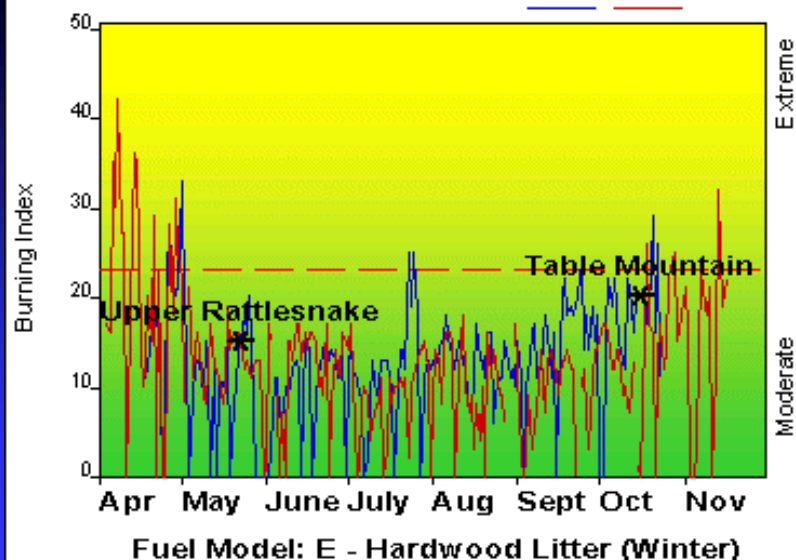
**Maximum** -- Highest Burning Index by day  
for 1981 - 2001

**Average** -- shows peak fire season

**90th Percentile** -- Only 10 % of the days from 1981 - 2001  
had an Burning Index above 23

**Local Thresholds - Watch out:** Combinations  
of any of these factors can greatly increase fire behavior:  
20' Wind Speed over 15 mph, RH less than 35%,  
Temperature over 80, 1000-Hour Fuel Moisture less than 18

Years to Remember: 1984 1992



## Remember what Fire Danger tells you:

- ✓ Burning Index gives day-to-day fluctuations  
calculated from 2 pm temperature, humidity, wind,  
daily temperature & rh ranges, and precip duration.
- ✓ Wind is part of BI calculation.
- ✓ Watch local conditions and variations across  
the landscape -- Fuel, Weather, Topography.
- ✓ Listen to weather forecasts -- especially WIND.

## Past Experience:

Most Spring and Fall fires burn in grass or leaves.  
Most Summer fires burn in conifer stands in the duff layer.  
Thermal Belt conditions can allow fires to burn actively at night.

### Historic Fires:

- 1903: 85,000 acres in the White Mountains including four fires over 10,000 acres.
- 1947: 220,000 acres in Bar Harbor and York County, Maine fires (October 23)
- 1957: 13,000 acres in Sanford, Maine (May 8)
- 1984: 106 acres in Bartlett, NH (Table Mountain, October 16)

# Job Hazard Analysis

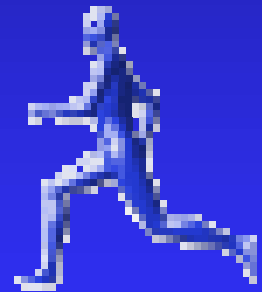
The purpose of a job hazard analysis is to ensure potential hazards, related to a specific project or activity, are anticipated and abated prior to beginning work

Prescribed Fire

Fire Suppression with hand tools/engines

Work Capacity Test

(examples in NEF Fire Management Plan)



[http://www.fs.fed.us/r1/people/jha/jha\\_index\\_www.html](http://www.fs.fed.us/r1/people/jha/jha_index_www.html)

Top of Mt.  
Washington,  
NH

6,288'

Hazard

Mitigation

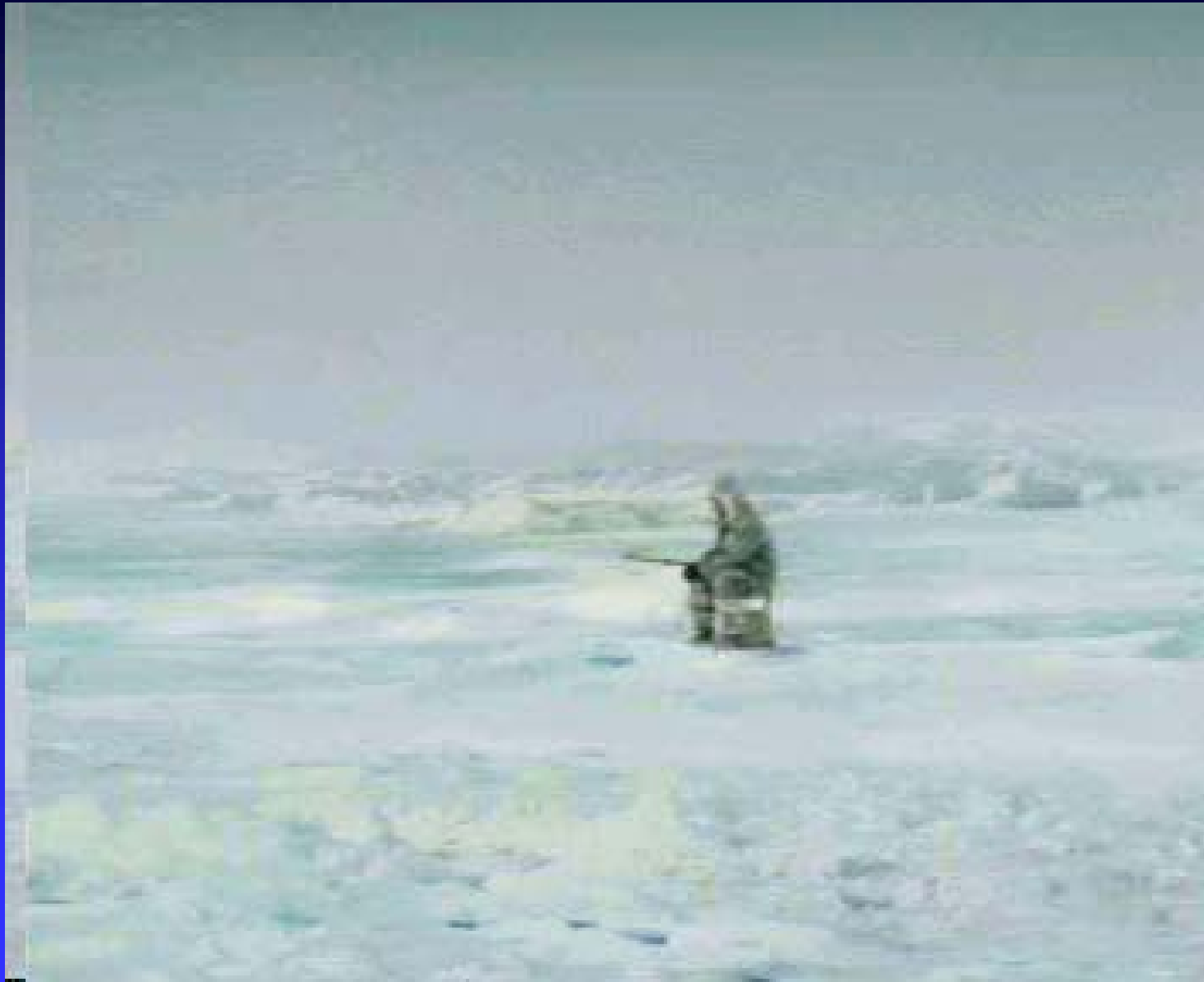




# Maintain your perspective



# Situational Awareness in Minnesota



**THANKS  
FOR LISTENING.**

